

REMARKS/ARGUMENTS

Summary of Office Action

The Examiner rejected claims 32 and 35 (perhaps meaning claims 32 and 36) under 35 USC 112, first paragraph, for failing to comply with the written description requirement.

The Examiner rejected 27 and 28 under 35 USC 112, second paragraph, stating that the "second inner end" and "the second resin injection duct" have no antecedent basis.

The Examiner rejected claims 20, 21, 29-31, and 36 as anticipated by each of U.S. Pat. Nos. 4,341,005 (Oscarsson), 5,395,468 (Juliar), and U.S. Pat. Appn. Pub. No. 2002/017172 (Lowell). The Examiner rejected claims 23-27 and 34-35 as anticipated by Lowell; Claim 32 as anticipated by each of Oscarsson and Lowell; and claim 33 as anticipated by each of Juliar and Lowell.

Remarks re S.112 Rejections

Claim 32: The Examiner stated that while there may be a bore in the shell (claim 30) and a bore in the sidewall (claim 32), they do not form a continuous bore. Applicant submits that claim 30 and claim 32 (as depending indirectly from claim 30) are directed to the location of the bore (as identified by the Examiner), rather than to the length of the bore. In particular, claim 30 is directed to a bore in the shell, and claim 32 more specifically recites that the bore is located in a sidewall of the shell (the sidewall having been introduced in claim 31).

Claim 35: Claim 35 appears to have been incorrectly identified by the Examiner at the beginning of this s.112 rejection, since claim 35 is directed to the location of the outlet of the resin injection duct, rather than the location of the bore.

Claim 36: The Examiner stated that claim 36 lacked support for similar reasons as claim 32. Applicant has amended claim 36 to recite an injection duct passing

through the shell. Applicant submits that this language is consistent with the language of claims 29 and allowable for similar reasons.

Claims 27 and 28: Claim 27 has been amended to recite "the second outlet" in place of "second inner end". The "second outlet" has antecedent basis in claim 25, from which claim 27 depends indirectly. Applicant submits that claims 27 (as amended) and 28 (which depends from claim 27) now satisfy the requirements of 35 USC 112.

Remarks re s.102 Rejections

Independent claims 20 and 36 were each rejected as anticipated by each of Oscarsson, Julian, and Lowell.

In Oscarsson, the Examiner identified the structure of Figure 2, namely, resin injection lines 23 feeding resin into temporary end caps 21, as corresponding to the structure of claim 20. However, one skilled in the art would readily recognize that the structure of Figure 2 fails to provide a "header". Rather, Figure 2 illustrates a transient structure that exists merely as a step in a process for making a finished product as illustrated in Figure 3.

The transient structure of Figure 2 fails to provide an enabling disclosure for the novel header of claim 20. Facts supporting this conclusion include that the temporary end caps have no openings for extracting permeate from the fiber lumens. In fact, portions of the end caps 21 must be stripped away, according to Oscarsson, to provide a functional finished product. Further, no permeate cavity is or can be provided in the transient structure of Figure 2, since the centrifugal forces generated by rotating the structure about axis 20 would urge the potting compound against the inner surface of the end caps, leaving no space for permeate collection.

The structure of Figure 3 of Oscarsson shows permeate cavities and ports 27, 28 in communication with the lumens. However, while providing a functional "header", the structure of Figure 3 fails to include all of the limitations of claim 20.

The structure of Figure 2 in no way provides a header as claimed in claim 20, and thus fails to meet the enablement requirement which is necessary to declare an applicant's invention "not novel" or anticipated within section 102 (MPEP 2121.01).

The same deficiency exists in regard to the anticipation rejection of claim 20 based on Julian. The Examiner has identified the structure of Figure 11 in Julian as teaching a header as claimed in claim 20. However, the structure of Figure 11 is a transient structure that includes potting caps 104 and 106 that are subsequently removed in a process for making an oxygenator 10. The oxygenator 10 has a fiber bundle 16 with potted areas 34 and inlet and outlet manifolds 38 and 40 (see Figure 5). The transient structure shown in Figure 11 and relied on by the Examiner cannot function as a header. The potting caps 104 and 106 have no provision for supplying fluid to, or extracting fluid from, the lumens of the fibers. In fact, the centrifuge potting (illustrated in Figure 12) would again leave no space for permeate collection in the potting caps 104,106. Furthermore, functional operation of the apparatus requires trimming the ends of the fibers (col. 10, lines 37-40), which requires that the caps 104,106 first be removed.

The same deficiency exists in regard to the anticipation rejection of claim 20 based on Lowell. The Examiner identified structure in Figure 1 as teaching a header as claimed in claim 20. Again, the structure of claim 1 is a transient structure that is used to make the product shown in Figure 5. The structure of Figure 1 cannot possibly operate as a header, as claimed in claim 20. The potting fill holes 5 and 6 of the block 4 would be completely filled with resin, leaving no channels or cavities in communication with the lumens of the fibers. To provide functionality as a header, the block 4 is removed and replaced with the cap 46 in Figure 5.

Applicant submits that none of the Oscarsson, Julian, or Lowell references provide an enabling disclosure of the invention of claim 20. Each of these

references fails to put the public in possession of the invention of claim 20. In view of this deficiency, withdrawal of the anticipation rejections of claim 20 is requested. Claim 20 is allowable over the cited references.

The same arguments apply to the anticipation rejections of claim 36, and withdrawal of these rejections is requested. Claim 36 is allowable over the cited references.

Claims 21–35 depend directly or indirectly from claim 20, and are allowable in that they depend from an allowable base claim.

Furthermore, regarding claim 29, it is clear that the structure that functions as a header shell in the cited references (i.e. end caps 25 in Oscarsson, case portion 12 in Juliar, and cap 46 in Lowell) do not include resin injection ducts passing therethrough, as claimed in claim 29. Claim 29 and claims 22-28 and 30-35 (which depend directly or indirectly from claim 29) are allowable for this additional reason.

Furthermore, in rejecting claim 23, the Examiner stated that Lowell teaches a plurality of protruding members "(mandrel 2 and shell 1, two is plural)". Claim 23 depends from claim 34, which depends indirectly from claim 20. Thus the protruding members of claim 23 define elements joined to the inner surface of the header shell, and having an outer wall embedded within the block of resin. Clearly the mandrel 2 of Lowell provides a wall within which the potting compound is contained, and so the mandrel fails to provide a protruding member as defined by claim 23. Claim 23 (and its dependants) are allowable for this additional reason.

Furthermore, regarding the cushioning material of claims 24 and 25, the Examiner stated that Lowell "teaches injecting first and second potting compounds sequentially in claim 14, and different kinds of potting compounds." This reasoning is flawed. Lowell teaches providing a mass of potting material 45 in the end of the shell 40 (see Figure 5). While the potting material 45 may be

any one of a variety of materials, Lowell teaches that the potting material 45 consists of only one common material, rather than a layer of cushioning material overlying a block of potting resin as claimed in claim 24. See for example, paragraph 27 (first several lines), and also claim 1 ("injecting a potting compound"), from which claim 14 depends (indirectly). Applicant submits that claims 27 and 28 are allowable for this additional reason.

Conclusion

Applicant respectfully submits that this application is now in condition for allowance. Early notice to that effect is respectfully requested.

If additional fees are required, please charge the fees to our Deposit Account No. 02-2095.

Respectfully submitted,

COTE ET AL.

By 
James A. Raakman
Reg. No. 56,624
(416) 957-1654